



February 6, 2017

Michelle Kaysen
USEPA Region 5, Mail Code LU-9J
77 West Jackson Boulevard
Chicago, Illinois 60604

RE: Fourth Quarter 2016 Progress Report, Hartford Petroleum Release Site, Hartford, Illinois

Dear Ms. Kaysen,

212 Environmental Consulting, LLC (212 Environmental) is submitting this quarterly report summarizing the progress and status of activities performed at the Hartford Petroleum Release Site (Hartford Site) on behalf of Apex Oil Company, Inc. (Apex) for the time period from October 1, 2016 to December 31, 2016.

1. The following deliverables were submitted by Apex during the fourth quarter 2016:
 - Photographs of the well completions and surface restoration for HSVE-106S and HSVE-106D installed north of West Arbor Street in the Village right-of-way were provided to the United States Environmental Protection Agency (USEPA) and the Illinois Environmental Protection Agency (Illinois EPA) on October 3, 2016.
 - The draft *Combined Effectiveness Monitoring Work Plan, Hartford Petroleum Release Site, Hartford, Illinois* was submitted to the USEPA and the Illinois EPA on October 7, 2016 via standard mail and electronic file sharing.
 - The response to the *USEPA's Secondary Review Comments on Apex Oil Company, Inc. Response to USEPA Comments, Draft Soil Vapor Extraction System Effectiveness Zone 6 Optimization Report, Hartford Petroleum Release Site, Hartford, Illinois* was submitted to the USEPA and Illinois EPA on October 13, 2016 via electronic file sharing.
 - The *Third Quarter 2016 Progress Report* was submitted to the USEPA and Illinois EPA on October 17, 2016 via email.
 - The response to the USEPA's additional comments dated October 14, 2016 regarding the *Draft Soil Vapor Extraction System Effectiveness Zone 6 Optimization Report, Hartford Petroleum Release Site, Hartford, Illinois* was submitted to the USEPA and Illinois EPA on October 26, 2016 via email.
 - The final *Soil Vapor Extraction System Effectiveness Zone 6 Optimization Report, Hartford Petroleum Release Site, Hartford, Illinois* was submitted to the USEPA and Illinois EPA on October 27, 2016 via standard mail and electronic file sharing.



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- Agendas for the Community Focus Group Meeting and the technical team meeting slated for November 14 and 15, 2016 were submitted to the USEPA and Illinois EPA on November 7, 2016 via email.
 - The response to the USEPA and Illinois EPA comments and *Revised Summary of Lines of Evidence Indicating a Potential Alternate Source of Petroleum Hydrocarbons beneath Soil Vapor Extraction System Effectiveness Zone 1, Hartford Petroleum Release Site, Hartford, Illinois* were submitted to the USEPA and Illinois EPA on November 19, 2016 via standard mail and electronic file sharing.
 - The draft correspondence describing the *Proposed Multiphase Remedy Framework Remedial Objectives, Remediation Goals, and Performance Metrics, Hartford Petroleum Release Site, Hartford, Illinois* was submitted to the USEPA and Illinois EPA on December 2, 2016 via email.
 - The draft *Hartford Community Focus Group Website* was shared with the USEPA and Illinois EPA on December 16, 2016.
 - An updated compliance calendar was sent to the USEPA and Illinois EPA on December 16, 2016 via standard mail and electronic file sharing.
2. The following requests and notifications pertaining to activities at the Hartford Site were submitted by Apex during the fourth quarter 2016:
- Apex requested information from the USEPA pertaining to historical site characterization and forensic testing results for light non-aqueous phase liquids including product types, additives, and refining processes used to formulate petroleum products on October 6, 2016 via email. The USEPA provided Apex with several historical reports on October 7, 2016 via email.
 - The USEPA and Illinois EPA were provided notification of the temporary suspension of in-home effectiveness monitoring at 610 North Old St. Louis Road following the identification of a natural gas leak associated with the hot water heater, as well as sewer water backing up into the sump due to a clogged sump line on October 15, 2016. In-home effectiveness monitoring at 610 North Old St. Louis Road resumed on October 19, 2016 following repairs to the hot water heater and sump.
 - The USEPA and Illinois EPA were provided notification of the temporary suspension of in-home effectiveness monitoring at 125 West Birch Street (rear) following the identification of a natural gas leak associated with the stove on November 13, 2016. The natural gas leak within the stove was repaired on November 21, 2016. In-home effectiveness monitoring is conducted within the structure quarterly and during river stage triggered monitoring events.
 - The USEPA and Illinois EPA were provided notification regarding total volatile petroleum hydrocarbon concentrations measured above the sub-slab soil vapor action level (350 parts per million by volume (ppmv)) during weekly in-home effectiveness monitoring within 507 North Olive Avenue on December 9, 2016.



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- The USEPA and Illinois EPA were provided notification regarding total volatile petroleum hydrocarbon concentrations measured above the sub-slab soil vapor action level (350 parts per million by volume (ppmv)) during in-home effectiveness monitoring within 507 North Olive Avenue and 119 East Date Street on December 13, 2016.
 - The USEPA and Illinois EPA were provided notification of additional in-home effectiveness monitoring conducted within 507 North Olive Avenue and 119 East Date Street on December 16, 2016.
 - The USEPA and Illinois EPA were provided notification of the analytical results from indoor air and sub-slab soil vapor samples collected within 507 North Olive Avenue and 119 East Date Street on December 22, 2016.
3. Apex participated in the following meetings and teleconferences during the fourth quarter 2016:
- Teleconference with the USEPA, Illinois EPA, and TetraTech (USEPA technical review contractor) to discuss the draft *Combined Effectiveness Monitoring Work Plan* and the final response to comments for the *Soil Vapor Extraction System Effectiveness Zone 6 Optimization Report* was conducted on October 13, 2016.
 - Community focus group meeting with the USEPA, Illinois EPA, and invited stakeholders was convened on November 14, 2016.
 - Technical meeting with the USEPA, Illinois EPA, and TetraTech to discuss the draft *Combined Effectiveness Monitoring Work Plan* and updates to the compliance calendar was convened on November 15, 2016.
 - Teleconference with the USEPA, Illinois EPA, and TetraTech to discuss in-home screening results and proposed monitoring activities and updates to the compliance calendar including preparation of the Comprehensive Conceptual Site Model was conducted on December 16, 2016.
4. Apex completed the following in-home effectiveness monitoring activities:
- Weekly in-home effectiveness monitoring was performed within nine structures at the Hartford Site during the fourth quarter 2016.
 - Quarterly in-home effectiveness monitoring was performed in 29 structures at the Hartford Site between November 9 and November 16, 2016.
 - Additional in-home effectiveness monitoring within 117 East Date Street, 119 East Date Street, 122 East Date Street, and 501 North Olive Avenue was conducted between December 12 and December 28, 2016.
 - Indoor air and sub-slab soil vapor samples were collected from 119 East Date Street and 507 North Olive Avenue between December 15 and December 16, 2016.



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5. Apex completed the following dissolved phase investigation activities:
 - Quarterly manual fluid level gauging within 377 groundwater monitoring wells and multipurpose monitoring points was completed between October 3 and October 5, 2016.
 - Groundwater samples were collected and analyzed from five monitoring wells and multipurpose monitoring points on October 6, 2016.
 - Groundwater samples were collected and analyzed from the five sentinel monitoring wells on December 6, 2016.
6. Apex completed the following operations, maintenance, and monitoring (OMM) activities with soil vapor extraction (SVE) system during the fourth quarter 2016:
 - Routine monitoring within vapor collection system components was conducted during the fourth quarter 2016 including: (1) fluid level gauging; (2) measuring vacuum, air flow, and temperature; and (3) screening total volatile petroleum hydrocarbon and fixed gas concentrations within operating SVE wells.
 - Routine operations within the vapor collection system components was conducted during the fourth quarter 2016 including adjustments to stingers and valve positions within individual wells, as well as sweeping of the horizontal transmission lines to remove accumulated groundwater.
 - Effectiveness monitoring for the vapor collection system was conducted within 146 nested vapor monitoring probes and multipurpose monitoring points between November 11 and November 16, 2016.
 - Routine OMM of the thermal treatment system components was performed throughout the fourth quarter 2016.
 - Non-routine maintenance of the thermal treatment system consisting of silt removal from the underground vapor liquid separator was performed on October 4, 2016.
7. Activities planned during the first quarter 2017 at the Hartford Site:
 - Conduct routine OMM of the vapor collection and thermal treatment components of the SVE system in accordance with the approved *Vapor Collection System Operation, Maintenance, and Monitoring Plan* (Trihydro 2015) and *HSVE Monitoring and Maintenance Manual* (URS 2014).
 - Conduct quarterly effectiveness monitoring within the nested vapor monitoring probes and multipurpose monitoring points in accordance with the approved *Effectiveness Monitoring Plan* (URS 2014) in February 2017.
 - Conduct quarterly in-home effectiveness monitoring in February 2017 in accordance with the *Final Interim In-Home Effectiveness Monitoring Plan* (Trihydro 2014).



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- Continue weekly in-home effectiveness monitoring within nine structures in accordance with the *Final Interim In-Home Effectiveness Monitoring Plan* (Trihydro 2014).
- Conduct river stage triggered monitoring in accordance with the triggers established within the *Final Interim In-Home Effectiveness Monitoring Plan* (Trihydro 2014).
- Continue dissolved phase investigation activities in accordance with the *Final Dissolved Phase Investigation Work Plan* (Trihydro 2013) including: (1) quarterly fluid level gauging, (2) groundwater sampling, and (3) data reduction, analysis, and reporting.
- Conduct semiannual groundwater monitoring of the five sentinel wells located south of the Hartford Site in March 2017.
- Participate in routine teleconferences and meetings with the USEPA and Illinois EPA.

We appreciate your continued engagement with this project. If you have any questions or require any additional information, please contact me at (513) 430-1766.

Sincerely,

Paul Michalski, P.G.
Senior Hydrogeologist

cc: James F. Sanders, Apex Oil Company, Inc.
Tom Miller, Illinois Environmental Protection Agency